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IS 12263 (1987): Method for determination of regidity of
sponge iron/DRI during transportation and handling [MTD 30:
Sponge Iron and Smelting Reduction]
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Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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IS : 12263 - 1987

Indian Standard

METHOD FOR DETERMINATION OF
RIGIDITY OF SPONGE IRON/DIRECT REDUCED IRON (DRI)
DURING TRANSPORTATION AND HANDLING

1. Scope — This standard prescribes a method for determining the rigidity of sponge iron during transportation and handling.

2. Terminology — For the purpose of this standard, the following definitions shall apply.

2.1 *Rigidity of Sponge Iron* — Resistance to shattering shown by sponge iron. It is defined by the quantity of − 3 mm fraction generated during free fall of material.

3. Sample — The sample to be tested shall be 20° ± 0·2 kg in mass and of size + 5 mm. Representative sample should be drawn and prepared as per the procedure given in IS : 10812-1984 'Classification of sponge iron/direct reduced iron (DRI) for steel making in electric arc furnaces'.

4. Test Method

4.1 *Principle of Test* — A sample of sponge iron/DRI with specified mass and size is allowed to fall freely from a specified height of 2 m and the extent of − 3 mm fraction generated is determined.

4.2 The test shall be conducted in accordance with the method prescribed for shatter test in IS : 9963-1981 'Method of determination of shatter index of iron ore lumps, sinters and pellets'.

5. Test Results — The rigidity index (RI) shall be reported as the percentage of − 3 mm fraction generated after the test. It shall be calculated by the following formula:

$$RI = \frac{m_2}{m_1} \times 100$$

where

m_1 = initial mass of sample in kg, and

m_2 = mass of sample passing through the 3 mm mesh sieve in kg.

EXPLANATORY NOTE

With the advancement of direct reduction technology, assessment of rigidity of sponge iron during transportation and handling, has assumed considerable importance. These guidelines give a method of determining the rigidity of sponge iron measured as the percentage of − 3 mm fines generated during transportation and handling.

Adopted 22 December 1987	© June 1988, BIS	Gr 1